

APPENDIX II

ADDITIONAL CULTURAL RESOURCE PLANNING DATA,
OGLETOWN INTERCHANGE

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OGLETOWN INTERCHANGE

by

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INTRODUCTION

This report provides additional background cultural resource information on the proposed right-of-way (ROW) of an additional segment and a realignment of previously surveyed segments of the proposed Ogletown interchange project (Figure 1). The additional segments and realignments are located north of Ogletown and were added after the completion of the original 1986 planning study (Coleman and Custer 1986).

The results of the 1985 testing program were briefly discussed in a management plan prepared by the University of Delaware Center for Archaeological Research (UDCAR) (Coleman and Custer 1986). Based on a series of public hearings held during the winter of 1985/6, a new interchange concept was created. The major design change involved a realignment and lengthening of Route 273 which shifted the terminus from Ogletown Home Cooking to the Avon plant entrance approximately 3/4 mile northward on Route 273 (Figure 2). This necessitated the additional Phase I/II survey of approximately one additional mile of right-of-way. For organizational purposes this one mile of ROW was divided into Segments 4, 5, and 6. Previously unsurveyed areas also affected by this new design were included in a shift of the ROW alignment of Segment 2. This involved a westward shift at the RT. 273 crossing and an eastward shift in the Paradise Lane area (Figure 2). The previously surveyed Route 4/273 alignment, designated as Segment 3, was not changed although the creation of a frontage road will cause further impact to the previously identified A. Temple Site (7NC-D-68, N-5308) (Coleman and Custer 1986). The creation of an additional segment of ROW by the design change

FIGURE 1
Project Area

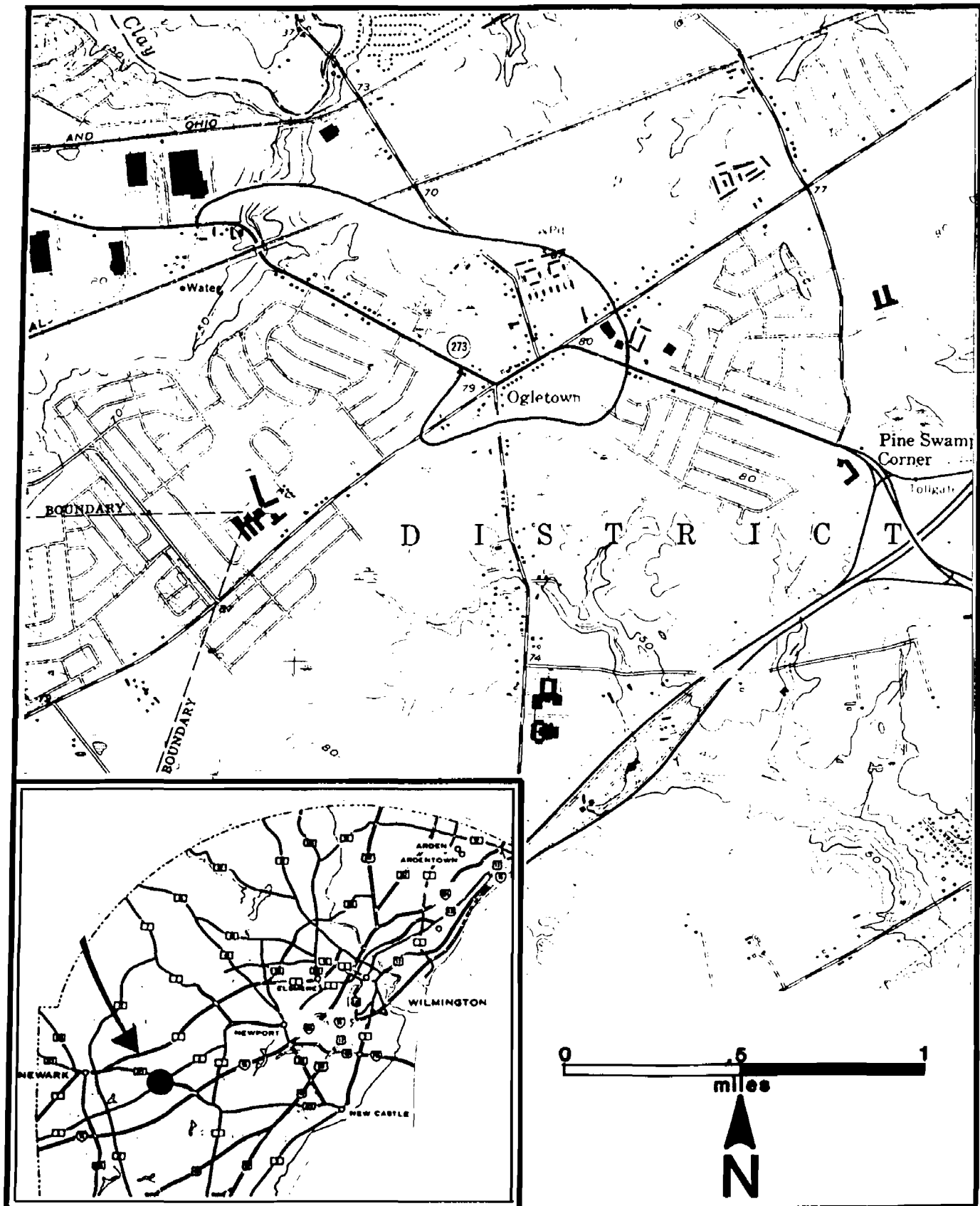
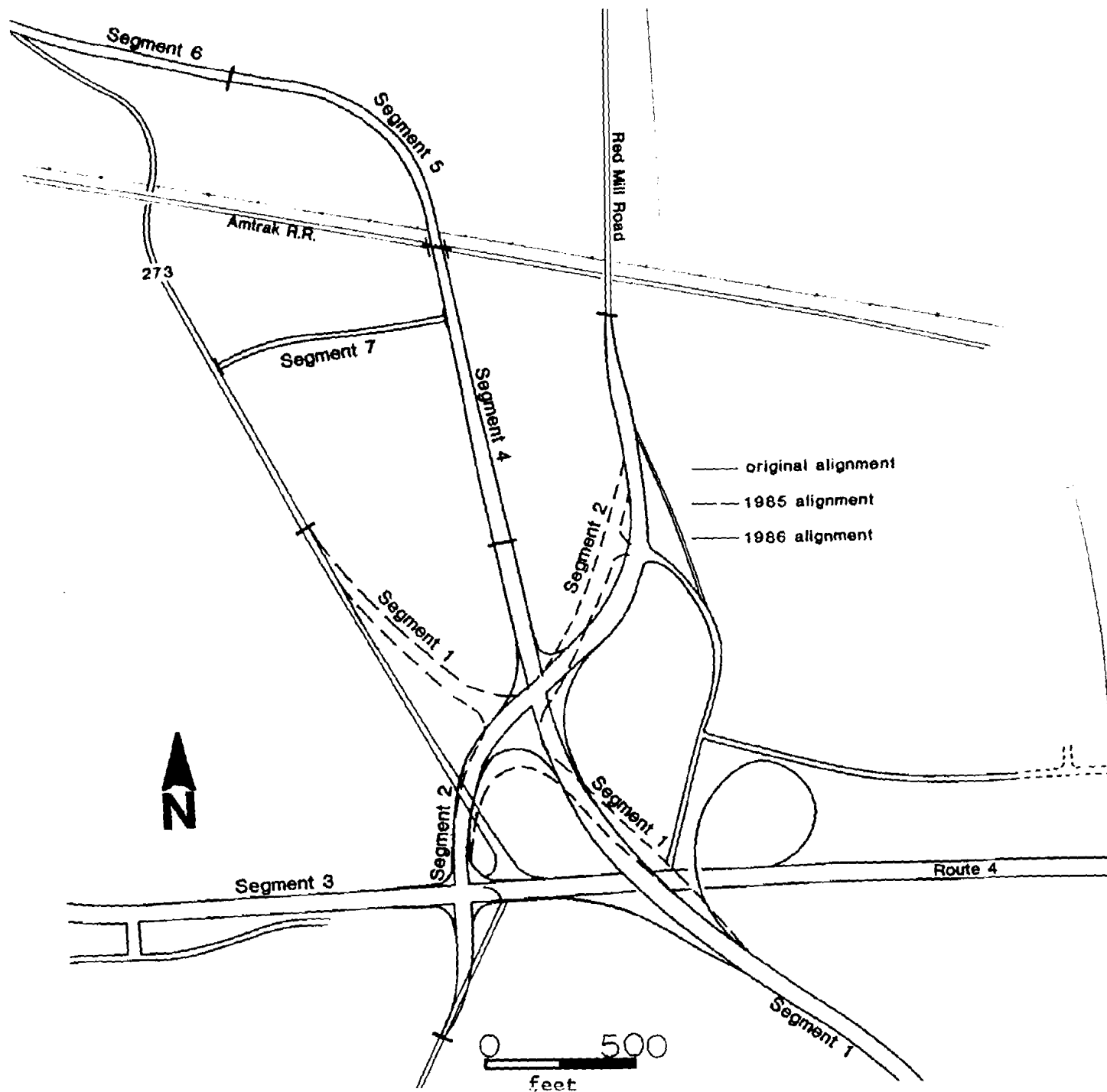


FIGURE 2
1985 vs. 1986 Alignments



necessitated the Phase I/II survey of an access road originating within segment 4 and terminating at Route 273 and approximately 1,100' in length (Figure 2). This alignment was designated as Segment 7.

RESEARCH METHODS

The research methods employed in the additional Phase I/II survey were identical to those of the initial Phase I/II survey. The model employed to predict high probability zones for prehistoric site location was also identical to that of the initial survey (Coleman and Custer 1986).

RESULTS

Table 1 presents an updated status of all the cultural resources located by the 1985 and 1986 archaeological testing. The following discussion will detail the results of the 1986 fieldwork.

Segment 1: Route 273 - Birchwood Park to Greenleaf Manor

Due to an alignment shift beginning within the central area of former Segment 1, additional testing was carried out within the new ROW high probability areas to the east of the known site boundaries of the Thomas Ogle Site (7NC-D-69, N-5309) (Figures 2, 3). No cultural materials were located in any of these test units. In the northern terminus of this segment, small rises within poorly drained areas adjacent to the southern boundary of the Paradise Lane Site, also were investigated (Figure 3). One contracting stem ironstone projectile point was the only cultural material located by the testing. Additional

TABLE 1

Ogletown Interchange

Current Status of Cultural Resources

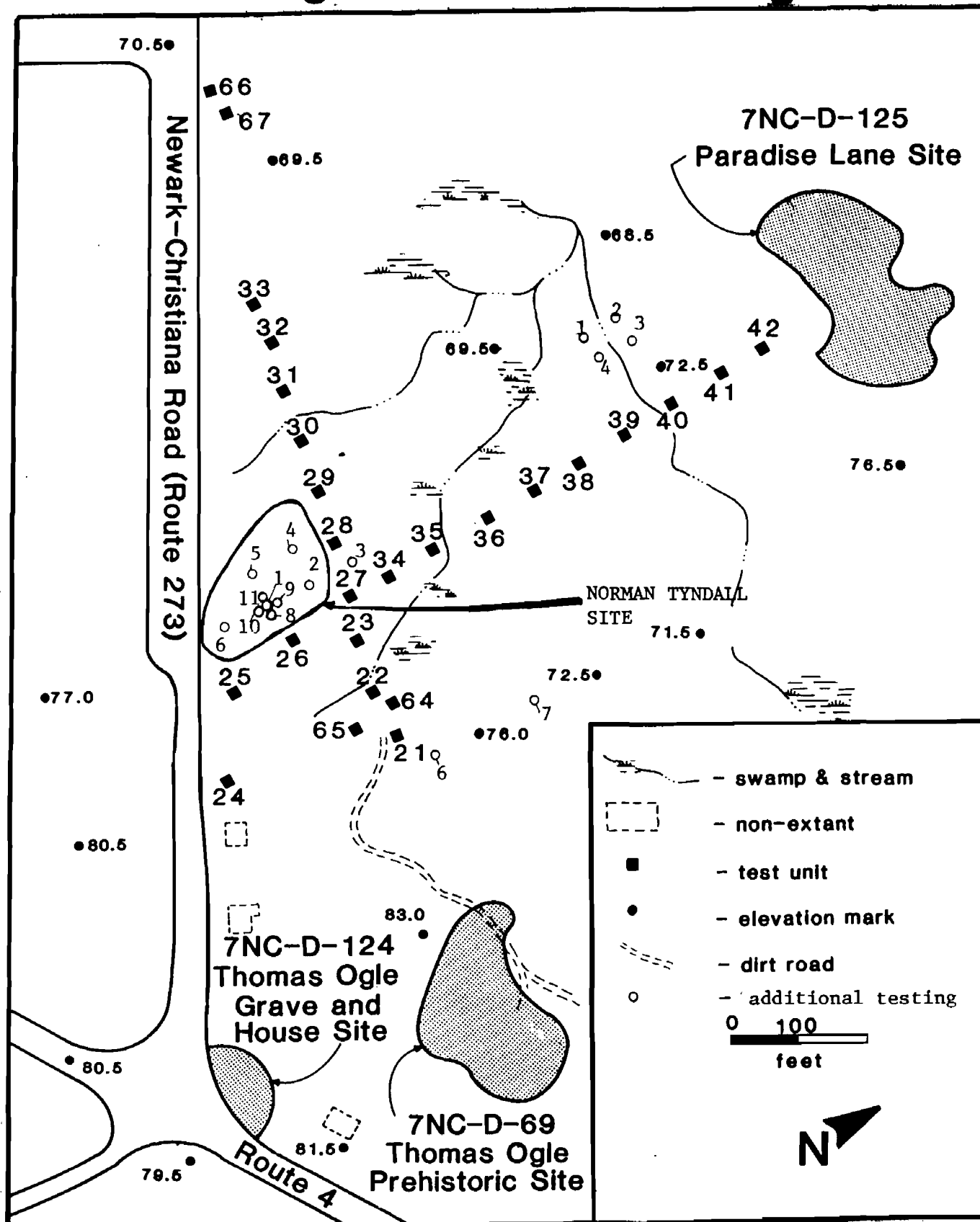
CULTURAL RESOURCE NAME	CRS #	ARCH. SITE #	A	B	C	D	E	F	G	H	I	J
Dairy Queen Site	10895	7NC-D-129	X				X		X	X	X	X
Paradise Lane Site + EXTENSION	10891	7NC-D-125	X				X		X	X	X	X
W. E. Heisler Site	10894	7NC-D-128	X	X	X	X		X		X	X	
Thomas Ogle Prehistoric Site	5309	7NC-D-69	X				X		X	X	X	
W. E. Heisler Tenant House Site	10893	7NC-D-127	X		X	X		X		X	X	
A. Temple Site	5308	7NC-D-68	X	X	X	X	X	X		X	X	X
Thomas Ogle House and Gravesite	215	7NC-D-124	X	X	X	X	X	X		X	X	
John Ruth Inn Site	10892	7NC-D-126	X	X	X	X		X		X	X	X
Robert Ogle House Site			X	X	X	X		X				
NORMAN TYNDALL SITE	10945	7NC-D-132	X						X	X	X	
JOHN SAYER HOUSE			X		X	X		X				

KEY:

- A - BAHP File information with CRS Number
- B - appears on Rea and Price (1849)
- C - appears on Beer's Atlas (1898)
- D - appears on Baist's Atlas (1893)
- E - identified by Thomas (1980)
- F - historic archaeological site
- G - prehistoric archaeological site
- H - Phase I investigation completed
- I - Phase II testing completed
- J - data recovery recommended, **IF SITE CANNOT BE AVOIDED**

FIGURE 3

Segment 1 and 2 Testing



testing adjacent to this find confirmed its isolated nature. The remainder of the ROW of the segment, passing through very poorly drained swamp/lowlands was not subjected to further testing.

Segment 2: Salem Church Road Industrial Park to Red Mill Road

The 1986 design concept created no additional ROW south of the Route 273 crossing and no further archaeological testing was carried out in this part of the segment. Just to the north of the Route 273 crossing, a westward shift of the proposed alignment placed the ROW within a high probability area consisting of a well-drained rise overlooking a swamp/lowland. Testing located both historic and prehistoric artifacts:

SITE NAME: Norman Tyndall Site

SITE NUMBER: 7NC-D-132

CRS NUMBER: N-10945

LOCATION DESCRIPTION: The Norman Tyndall Site was located on a south-facing terrace, approximately 100 feet north of the Ogletown-Newark Road (Figure 3). The site lies totally within the proposed ROW alignment for the Salem Church - Red Mill Road connector.

PHASE 1 SURVEY METHODS AND RESULTS: The site was located during the 1986 excavation of seven 1 m units north of a previous transect within the new ROW alignment. Debitage was recovered primarily from plowzone contexts, but one unit yielded 6 flakes from buried contexts 30-60 cm below ground surface. No diagnostic artifacts or tools were located. Mid-19th century historic artifacts were infrequently recovered from the plowzone horizon in all but one of the units.

PHASE II SURVEY METHODS AND RESULTS: An additional four 1 m test units were excavated at a 5 m distance from the single unit containing intact material in order to define the limits of the buried artifact bearing deposits. One of the units recovered two prehistoric artifacts from a disturbed, plowzone context.

DISCUSSION OF RESULTS: The Norman Tyndall Site assemblage of 11 flakes and a single tool distributed over a 40 m x 60 m area indicates that the site is a limited occupation procurement site. There was a low frequency of artifacts in the plowzone and only 6 flakes were recovered from intact deposits. The site area with buried prehistoric artifacts was determined to be approximately 20 m N-S x 20 m E-W.

NR ELIGIBILITY: The site is considered not eligible for inclusion on the National Register under any criteria. Plowing has partially disturbed the site's integrity and the cultural materials with good context are of low density and restricted to a very limited horizontal area.

IMPACT: The site is directly within the impact zone of the proposed alignment.

RECOMMENDED MITIGATION ALTERNATIVES: None.

SITE NAME: Paradise Lane Site (extension)

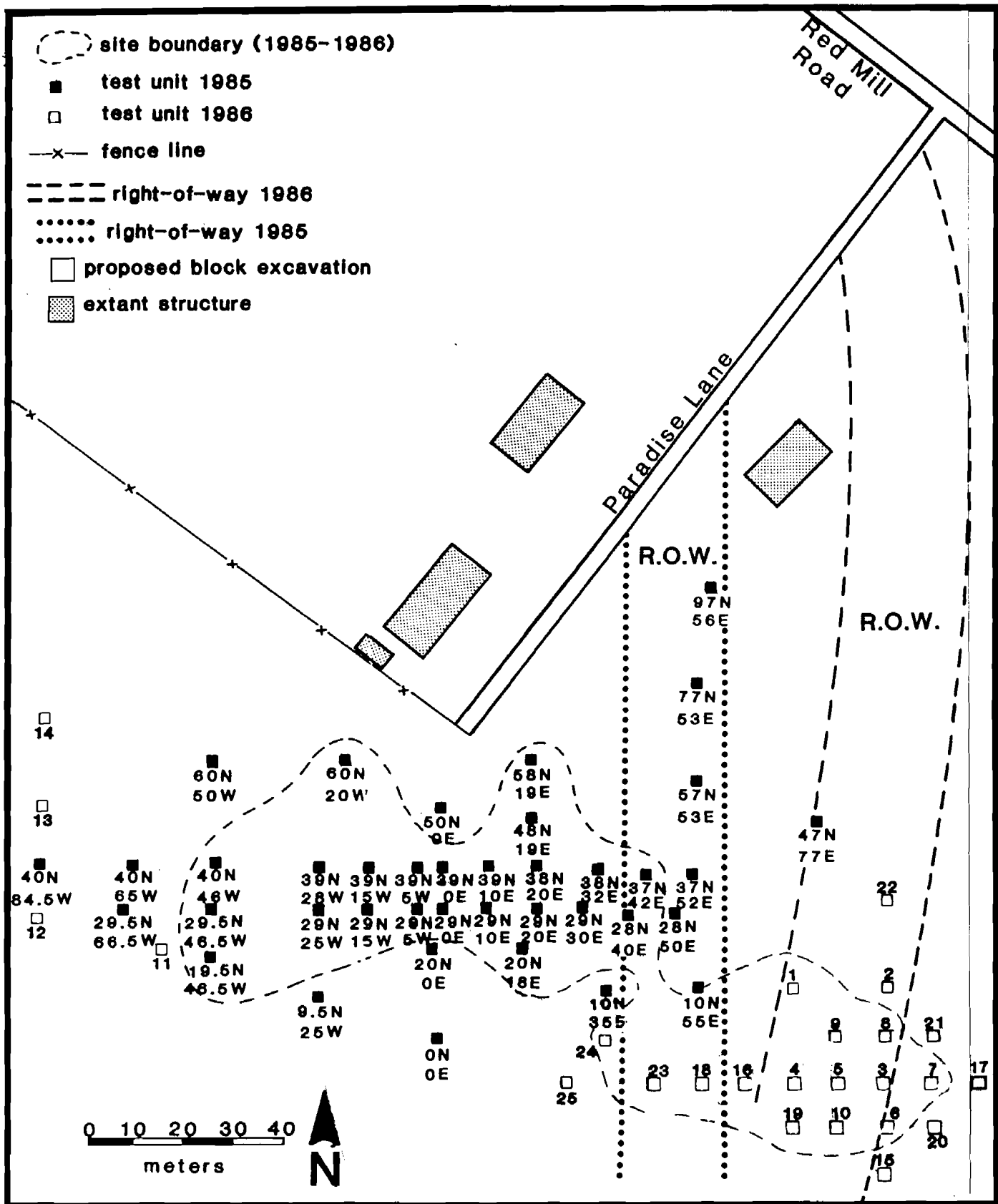
SITE NUMBER: 7NC-D-125

CRS NUMBER: N-10891

LOCATION DESCRIPTION: The Paradise Lane Site is located on a heavily wooded east-west trending rise of land, approximately 100 feet south of the end of Paradise Lane (Figures 3 and 4). The site lies on a south-facing rise overlooking a large area of

FIGURE 4

Paradise Lane Site N-10891, 7-NC-D-125



poorly-drained woodland including several small bay/basin features.

1985 and 1986 PHASE I/II SURVEY METHODS AND RESULTS: The site was located during a cultural resource survey of the ROW designated as Segment 2 of the Ogletown interchange project (Coleman and Custer 1986). A total of thirty-nine 1 m units recovered 316 prehistoric artifacts, most contained within buried contexts down to 30 cm below ground surface (Table 2). An eastward shift of the proposed ROW necessitated additional archaeological testing at the eastern limits of the known site boundaries.

PHASE II METHODS AND DISCUSSION OF RESULTS: An additional twenty-five 1 m test units were excavated within the new ROW employing the previously established grid, in an attempt to locate any features and to further define the site boundaries (Figure 4). Test units derived substantial amounts of prehistoric materials from buried stratigraphic contexts. Several units yielded prehistoric materials within excavated levels 60 to 70 cm below ground surface. The raw material types and overall lithic assemblage derived from the 1986 testing of the newly defined SE extension of the site differed from that from the area of the site tested during 1985 and may represent a spatially and temporally separate episode of lithic reduction. Unlike the debitage from the 1985 testing which consisted of >60% quartz, prehistoric artifacts recovered from the 1986 testing featured a predominance of jasper and chert and a majority of the debitage recovered exhibited no cortex. Diagnostics recovered included five biface fragments including one that could be attributed to the Woodland I Period (Table 2).

7NC-D-125, N-10891 General Artifact Inventory (1985-1986)

	HISTORIC	PREHISTORIC	TOTAL	Misc. Metal	Plastic	Window Glass	Color Bottle Glass	Clear Bottle Glass	Minguanon Body Sherd	F.C.R.	Chert Core	Quartz Biface Fragment	Jasper L.S.B.R.	Quartz L.S.B.R.	Jasper E.S.B.R.	Chert E.S.B.R.	Quartz E.S.B.R.	Jasper Flake Tool	Quartz Flake Tool	Jasper Flake	Chert Flake	Quartzite Flake	Quartz Flake	LA/WLI Side- notched Point
TEST UNIT #1, LV.1	10	1	10																					
" " #1, LV.2	1	2	3																					
" " #1, LV.3			0																					
" " #1, LV.4			0																					
TEST UNIT #2, LV.1			1																					
" " #2, LV.2																								
" " #2, LV.3			0																					
" " #2, LV.4			0																					
" " #2, LV.5			0																					
TEST UNIT #3, LV.1			133	1				109												23				
" " #3, LV.2			23																480					
" " #3, LV.3			50																68					
" " #3, LV.4			69																36	8				
" " #3, LV.5			12																8					
" " #3, LV.6			8																2					
" " #3, LV.7			2																					
TEST UNIT #4, LV.1			0																					
" " #4, LV.2			1																					
" " #4, LV.3			0																					
" " #4, LV.4			0																					
TEST UNIT #5, LV.1			0																					
" " #5, LV.2			20																	17				
" " #5, LV.3			17																	15				
" " #5, LV.4			7																	7				
" " #5, LV.5			3																	2				
SUBTOTAL			335	1		0	0	149		2	0	0	0	0	0	0	0	0	0	199	30	0	8	0

TABLE 2

7NC-D-125, N-10891- General Artifact Inventory (1985-1986)

TEST UNIT #5, LV.6	HISTORIC	PREHISTORIC	TOTAL	Misc. Metal	Plastic	Window Glass	Color Bottle Glass	Clear Bottle Glass	Minguannon Body Sherd	F.C.R.	Chert Core	Quartz Biface Fragment	Jasper L.S.B.R.	Quartz L.S.B.R.	Jasper E.S.B.R.	Chert E.S.B.R.	Quartz E.S.B.R.	Jasper Flake Tool	Quartz Flake Tool	Jasper Flake	Chert Flake	Quartzite Flake	Quartz Flake	LA/WLI Side-notched Point
" #5, LV.7	-	-	0										NCM	NCM										
" #5, LV.8	-	-	0										NCM	NCM										
TEST UNIT #6, LV.1	6	1	7	2																				
" #6, LV.2	-	-	0				4																	
" #6, LV.3	-	-	0										NCM	NCM										
" #6, LV.4	-	-	0										NCM	NCM										
TEST UNIT #7, LV.1	-	-	3																					
" #7, LV.2	3	10	13				3																	
" #7, LV.3	2	1	3				2																	
" #7, LV.4	-	-	1										NCM	NCM										
" #7, LV.5	-	-	0										NCM	NCM										
" #7, LV.6	-	-	0										NCM	NCM										
TEST UNIT #8, LV.1	-	-	0							8														
" #8, LV.2	-	9	9							1														
" #8, LV.3	-	4	4																					
" #8, LV.4	-	1	1																					
" #8, LV.5	-	-	0										NCM	NCM										
" #8, LV.6	-	-	0										NCM	NCM										
TEST UNIT #9, LV.1	-	1	1																					
" #9, LV.2	-	-	0																					
" #9, LV.3	-	-	0										NCM	NCM										
" #9, LV.4	-	-	0										NCM	NCM										
" #9, LV.5	-	10	10										NCM	NCM										
" #9, LV.6	-	-	0										NCM	NCM										
SUBTOTAL	0	2	2	2	0	0	0	10	0	9	0	0	0	0	0	0	0	0	0	14	10	10	10	0

7NC-D-125, N-10891- General Artifact Inventory. (1985-1986)

	HISTORIC	PREHISTORIC	TOTAL	Misc. Metal	Plastic	Window Glass	Color Bottle Glass	Clear Bottle Glass	Minguannon Body Sherd	F.C.R.	Chert Core	Quartz Biface Fragment	Jasper L.S.B.R.	Quartz L.S.B.R.	Jasper E.S.B.R.	Chert E.S.B.R.	Quartz E.S.B.R.	Jasper Flake Tool	Quartz Flake Tool	Jasper Flake	Chert Flake	Quartzite Flake	Quartz Flake	LA/WLI Side-notched Point
TEST UNIT #10, LV.1	-	4	4												1					3				
" " #10, LV.2	-	6	6																	4			2	
" " #10, LV.3	-	1	1																				1	
" " #10, LV.4	-	-	0										NCM											
" " #10, LV.5	-	-	0										NCM											
TEST UNIT #11, LV.1	-	-	0										NCM											
" " #11, LV.2	-	-	0										NCM											
TEST UNIT #12, LV.1	-	-	0										NCM											
" " #12, LV.2	-	-	0										NCM											
TEST UNIT #13, LV.1	-	-	0										NCM											
" " #13, LV.2	-	-	0										NCM											
" " #13, LV.3	-	-	0										NCM											
TEST UNIT #14, LV.1	-	-	0										NCM											
" " #14, LV.2	-	-	0										NCM											
TEST UNIT #15, LV.1	-	-	0										NCM											
" " #15, LV.2	-	-	0										NCM											
TEST UNIT #16, LV.1	-	4	4																	4				
" " #16, LV.2	-	8	8																	7		1		
" " #16, LV.3	-	4	4																	4				
" " #16, LV.4	-	-	0										NCM											
" " #16, LV.5	-	-	0										NCM											
TEST UNIT #17, LV.1	-	-	0										NCM											
" " #17, LV.2	-	-	0										NCM											
TEST UNIT #18, LV.1	-	3	3										NCM											
" " #18, LV.2	-	5	5										NCM											
SUBTOTAL		10	60																		9	1	3	0

TABLE 2

7NC-D-125, N-10891- General Artifact Inventory (1985-1986)

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DISCUSSION OF RESULTS: With the exception of four 1 m units which encountered a plowzone horizon, all of the artifacts were recovered from intact soils (Figure 4). Prehistoric artifacts are included in soils deposited by both aeolian and colluvial processes underlain by Pleistocene clays and sands (Pizzuto 1986).

The artifact assemblage recovered from the 1986 testing contained 380 flakes, approximately 10% of which showed signs of utilization, several blade-like tools, and a variety of biface fragments.

The redefined site area included an area approximately 200 m E-W x 80 m N-S, interrupted at the intersection of the 40E and the 10N line by a small area of poorly drained soils and a corresponding lack of prehistoric artifacts.

NR ELIGIBILITY: The Paradise Lane Site is eligible for inclusion on the National Register under criterion D because the site has and is likely to yield information important in prehistory as the site represents a preserved example of a rare site type for the Fall Line/Upper Coastal Plain transition zone. Although micro-band camps have been recorded for the Woodland I Period in the adjacent Fall Line zone of northern Delaware, no well-preserved sites have been identified for the interior zone or in the transitional Fall Line/Interior zone. Usually natural erosion or modern development has destroyed these sites in northern Delaware. Most of the known sites for the surrounding area are large base camps along major drainages or small lithic scatters in upland areas. The Paradise Lane Site is unique in that it

represents a well-stratified, intermediate size site in an upland setting.

IMPACT: Approximately 60% of the site is located within the direct impact zone of the proposed alignment (Figure 4). In addition, the unplowed nature of the site makes it highly susceptible to indirect effects from the project.

RECOMMENDED MITIGATION ALTERNATIVES: Avoidance or preservation are the recommended mitigation alternatives, due to the direct and indirect impacts of the proposed construction. If avoidance is not a possible alternative, then data recovery would be the recommended mitigation alternative.

Segment 3: Route 4 Improvements

Within this segment the redesign of the Ogletown interchange did not expand the ROW into areas previously untested. The creation of a frontage road originating at the western terminus of the project areas and paralleling Route 4 on the southern side creates further impact to the mid-19th century A. Temple Site (7NC-D-68, N-5308). This preserved archaeological site is considered to be eligible for nomination to the National Register (Coleman and Custer 1986). Data recovery remains the recommended mitigation alternative due to the significance of the site combined with the unfeasibility of alternative alignments which would avoid the site.

Segment 4: Route 273-Greenleaf Manor to AMTRAK Railroad

The proposed ROW within this segment is composed of a well-drained wooded area on the eastern terminus, extending for approximately 1,000 feet to a 500 foot strip of poorly-drained woodland bordering the AMTRAK RR tracks to the south.

A total of twenty-four 1 m test units were excavated within this segment of the ROW (Figure 5). Four of the units yielded a very low frequency of artifacts .ie one or two artifacts per unit, including a heavily resharpened, basally-notched biface. Additional testing of areas adjacent to these units produced no additional cultural material and confirmed the isolated, discontinuous distribution of the cultural material which precluded any further testing.

Segment 5 Route 273: AMTRAK Railroad Tracks to Cool Run

An uncontrolled surface collection of field "B" within the proposed ROW yielded two historic artifacts. Because of poor surface visibility, a total of five 1 m test units were excavated (Figure 6). No cultural material were recovered and all units encountered very poorly drained soils. Based on these results no further testing was conducted at this location.

The ROW within agricultural field "C" was subjected to a controlled surface collection after a preliminary flagging of cultural materials. The controlled surface collection, utilizing 25 10 m x 10 m collection units, recovered seven prehistoric materials in only four units. While 21 units yielded historic materials, over 90% of these were shotgun shells/plugs and can be attributed to late 20th century hunting activities. A total of eleven 1 m test units were also excavated within and adjacent to the ROW (Figure 6). A small number of artifacts were recovered from plowzone contexts, with none recovered from buried contexts beneath the plowzone. The lack of spatial patterning and low frequency of artifacts precluded any further testing.

FIGURE 5
Segment 4 Testing

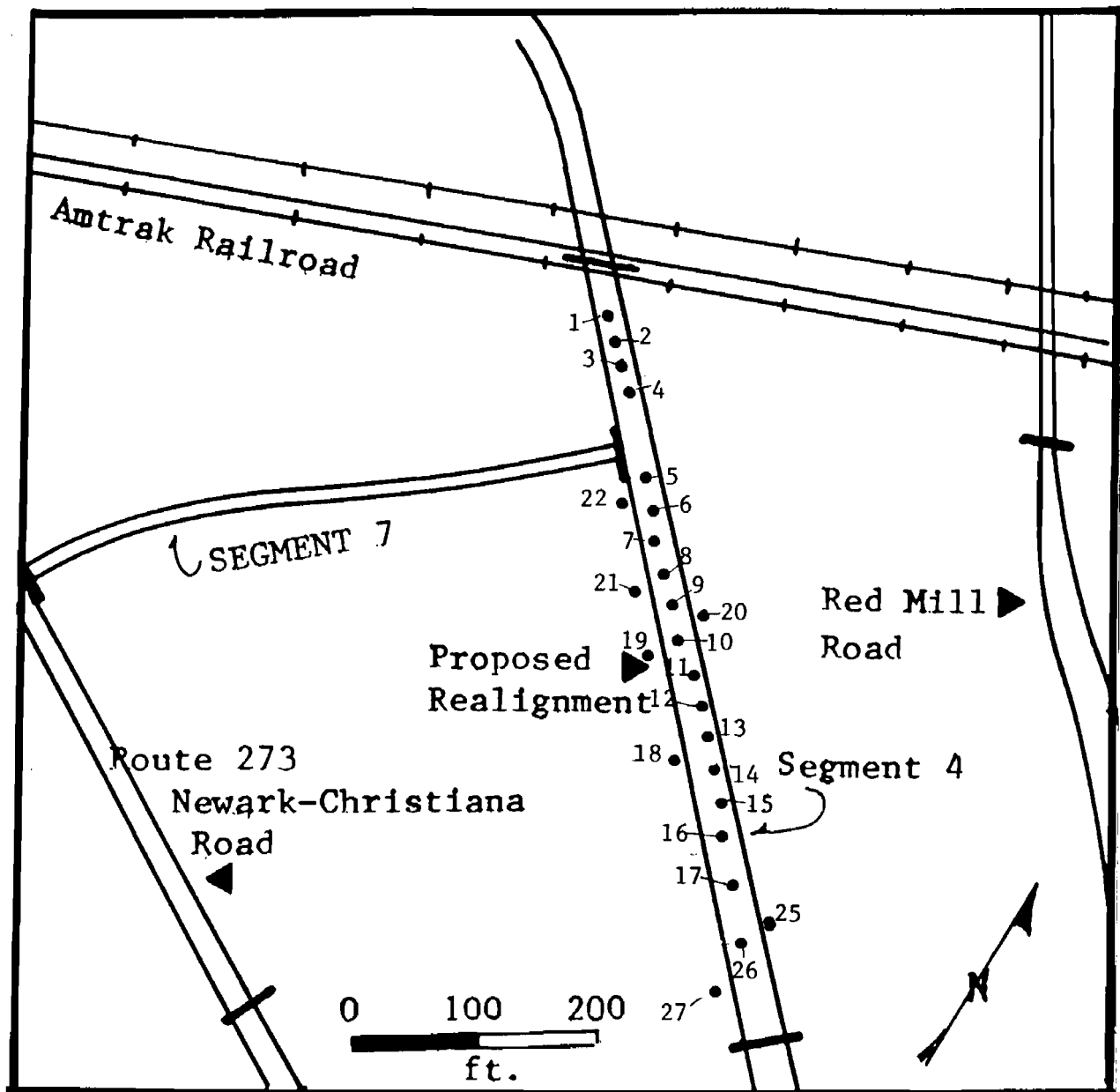
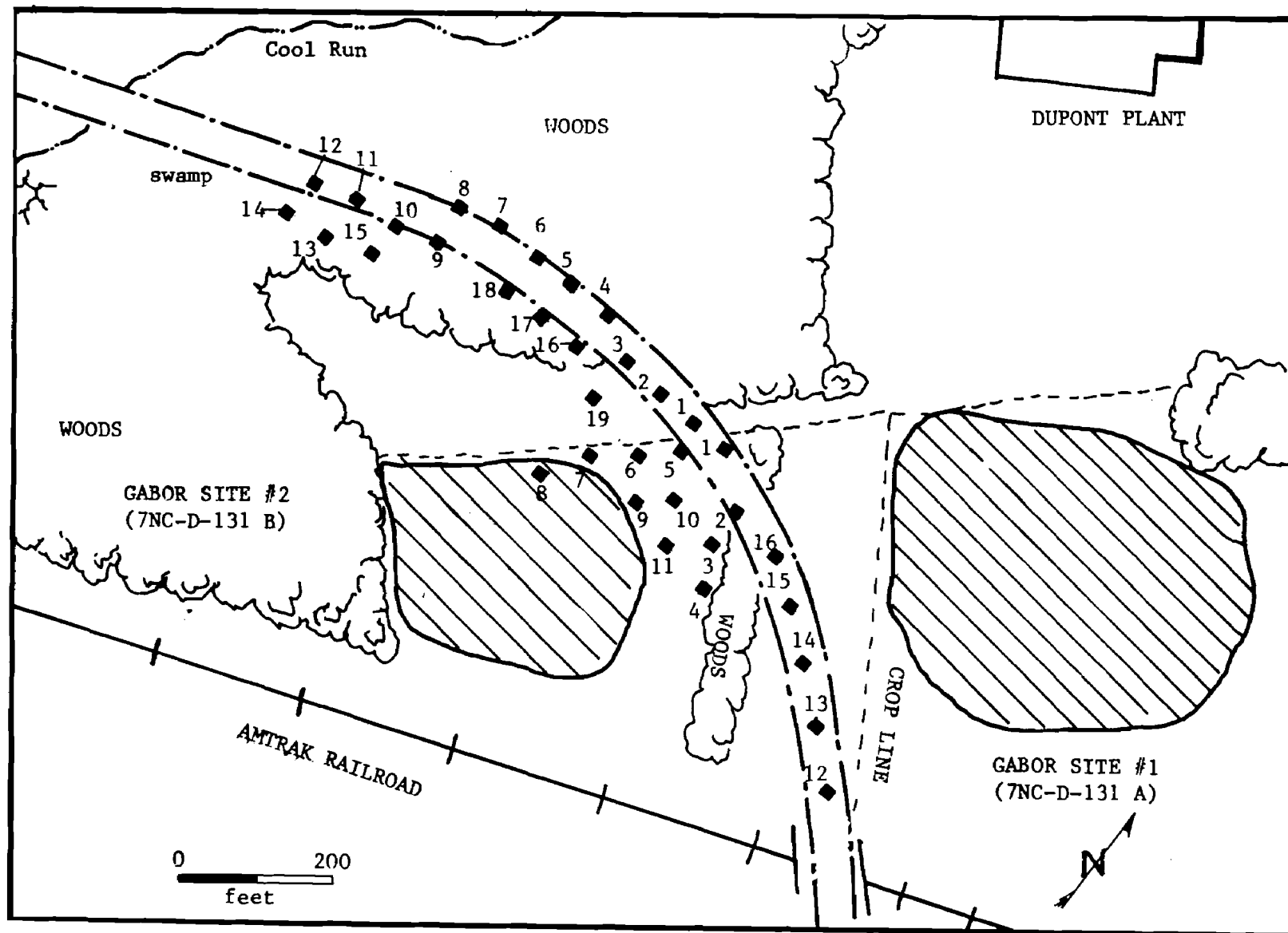


FIGURE 6
Segment 5 Testing



Two prehistoric sites were identified during Phase I reconnaissance of plowed fields "A" and "C" adjacent to the ROW (Figure 6). The Gabor Site #1, 7NC-D-131(A), was located as a discontinuous scatter of predominantly quartz and quartzite debitage over a 225 m x 200 m area in field "A". A single biface was among the 21 prehistoric artifacts recovered by the surface collection. Mid-19th to mid-20th century ceramics and glass were also found within the site area.

The Gabor Site #2, 7NC-D-131(B), was located on an east facing rise approximately 300 feet south of the proposed ROW alignment (Figure 6). Two concentrations of lithic scatter, again predominantly quartz and quartzite were identified within a discontinuous distribution over a 200 m x 130 m area. Eighty-four prehistoric artifacts were collected, including two biface fragments (Palmer ca. 8,000 B.C., Stemmed Woodland I ca. 2,000 B.C.). Because of their location outside of the proposed ROW neither site was subjected to Phase II investigation.

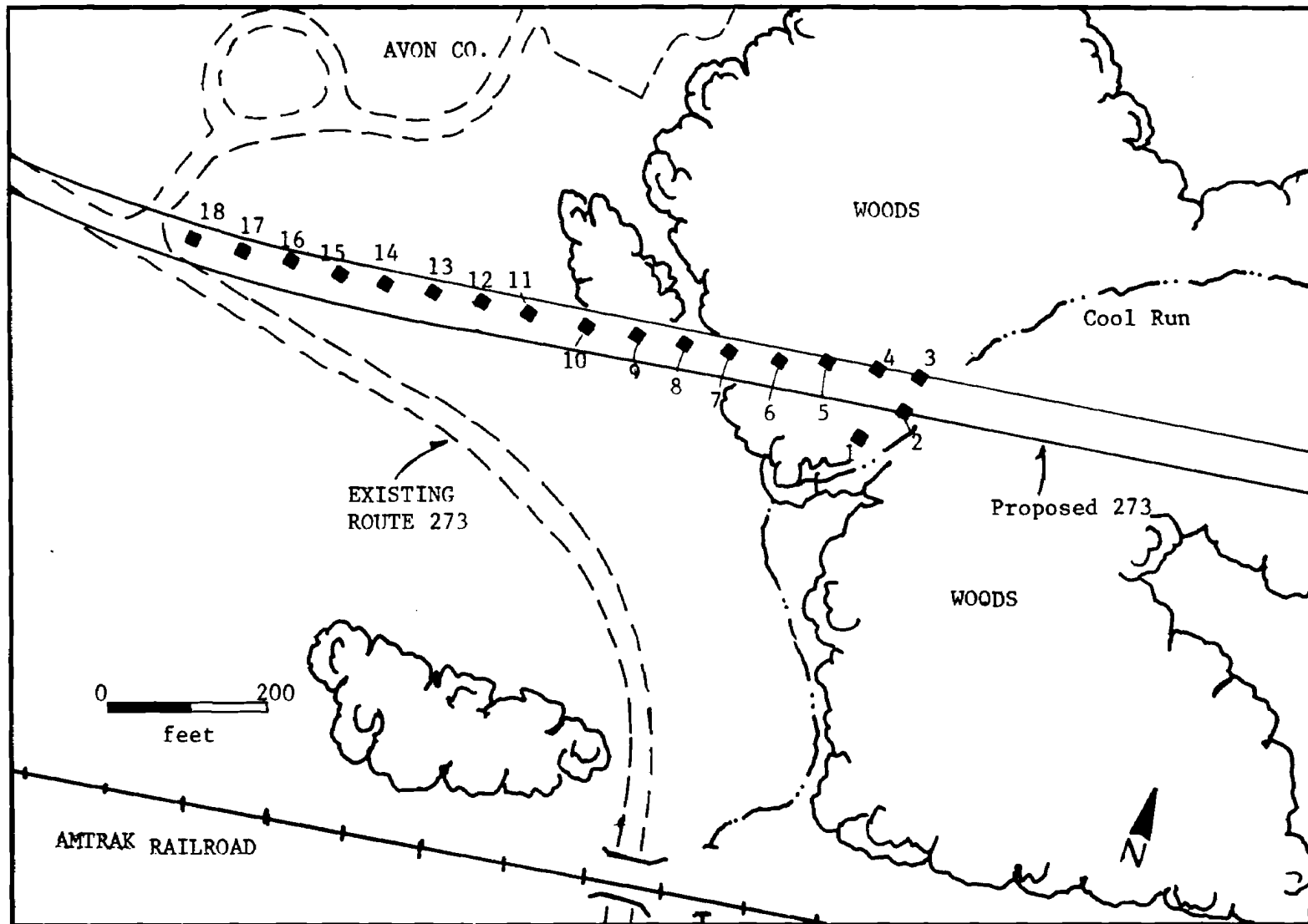
The southern floodplain of Cool Run was not tested because the emplacement of a major New Castle County sewer line had totally disturbed a 55' wide corridor paralleling Cool Run and the remainder of the floodplain showed extensive scouring and redeposition of sediments.

SEGMENT 6: Route 273 - Cool Run to Avon

This segment consists of a narrow floodplain area with recent flood deposits and erosion and an adjacent terrace and hillslope area leading up to a level, grassy area.

A total of ten 1 m units were excavated within the floodplain and terrace slopes adjacent to Cool Run (Figure 7).

FIGURE 7
Segment 6 Testing



The floodplain stratigraphy showed 20th century sediments resting unconformably on Pleistocene sands and clays. Significant erosion of Holocene deposits was also evident on the terrace and hillslope areas. The only cultural materials encountered were single quartz flakes recovered from disturbed contexts within two of the units.

Testing through the excavation of eight 1 m units within the western terminus of the proposed Route 273 realignment revealed significant soil disturbances caused by earthmoving activities associated with the Avon plant construction. Emplacement of numerous utility lines was also found to have significantly disturbed soil stratigraphy. The area, now grass covered, was also found to have been plowed. Historic artifacts were recovered from disturbed contexts in all of these units. Historic research revealed that no structures had existed within the ROW at this location before the ca. 1950 construction of an outdoor pool and recreation area. A 1955 aerial of the area shows this complex and also the main house and tenant house complexes, both located well outside of the proposed ROW. Artifacts and cultural features associated with this operation were located in one of these test units. The lack of significance combined with the lack of integrity precluded Phase II excavations at this location. The Phase I background historic research also indicated that archaeological evidence of a bark mill (ca. 1830) might remain within the project area. Preliminary Phase I reconnaissance determined that the construction of the RR embankment over Cool Run had completely destroyed the site.

SEGMENT 7: Access Road-New 273 to old 273

The eastern terminus of this segment, located in a poorly drained woodland, was not tested. The central section had been the site of a soil mining operation and was not tested. At the western terminus, an extant mid-19th century frame structure is located within the direct impact zone. A preliminary reconnaissance revealed that the back and southern side yards have been graded into a parking lot and no outbuildings are extant. Architecturally, the structure has been extensively modified through numerous 20th century additions, the application of aluminum siding, and structural modifications related to the conversion of the residence into a commercial business. It appears that the structure is not eligible for nomination to the National Register under criteria A, B, or C. Permission to carry out Phase I/II archaeological research was denied by the present owner, A and L Associates. It is therefore not known whether the site is eligible under criteria D and it is recommended that an Phase I/II archaeological survey of this site be carried out.

FIGURE 8
Segment 7 Testing

